

As set forth in independent claim 1, applicants' program guide system uses memory in the user television equipment to store program guide data. Claim 1 also sets forth that information on the amount of memory to use for storing the program guide data is received from a remote source. In response to this information, the system adjusts or reconfigures the amount of memory allocated for program guide data storage.

An example is shown in FIGS. 2 and 11, and is described on pages 3-6 and 8 of applicants' specification. In step 2, an amount of memory has been allocated for the storage of program guide data. In this example, the user television equipment receives information from a remote source on the amount of memory to be used for storing program guide data in order to accommodate a new application. In response to this information, the system adjusts or reconfigures the memory allocation by reducing the amount of memory to be used for program guide data, as depicted in step 4. By decreasing the amount of memory used for the program guide data in this manner, the new application can be accommodated in the newly available memory, as depicted in step 6. In systems lacking the ability to adjust the memory, such as the prior art system depicted in FIG. 1, the memory allocated for program guide data is fixed.

The features of claim 1 are not shown or suggested by Hawkins. The portions of Hawkins that were cited in the Office Action (i.e., column 12, lines 25-35; column 18, lines 20-22; column 19, lines 25-45; FIGS. 5, 6, 8) relate to a system for streaming services to a user over a cable system. The streaming services arrangement in Hawkins is not used to store applications in local memory,

let alone a program guide that uses a local database of program guide data stored in local memory. The streaming services in the Hawkins system are delivered to the user equipment in the form of MPEG packets, so there is no need for Hawkins to allocate different amounts of local memory when a new application is installed. Accordingly, the information shown in FIGS. 5, 6 or 8 of Hawkins only has a bearing on the latency times, the delivery times and the bandwidth in relation to the streaming delivery of the services. As shown in these tables, there is a trade-off between bandwidth usage and latency. The information in these tables does not refer to local memory allocation or adjustment of local memory allocation in its user equipment. The system of Hawkins is limited not by local memory, but by bandwidth and the amount of data being streamed to the user equipment. If more bandwidth is used by the streaming services in the Hawkins system, the responsiveness of the system decreases (i.e., it takes more time to respond to the user). As a result, if an extra streaming service is added to the Hawkins system, the system may have to cope with an additional burden to its bandwidth. This may reduce the responsiveness of the system, but, importantly, it will not prevent the system from operating. As a result, Hawkins' streaming services arrangement can accommodate new services with only a performance penalty.

Applicants' program guide system works differently. With applicants' approach, the program guide operates using a local database of program guide data that is stored in memory on the user's equipment. The program guide software, the program guide data used by the program guide, and other applications and data on the user's

equipment occupy this limited memory. In order to install a new service in this limited memory environment, it may be necessary to reallocate memory usage. For example, the amount of memory used to store the program guide data can be reduced in response to a command or information received from a remote location, as set forth in claim 1. With this approach, needed memory space can be made available to install a new service on the user's equipment. In contrast to the Hawkins system in which additional streaming services of the type shown in FIGS. 5, 6 and 8 incrementally load the streaming system without regard to the allocation of the local memory, if the needed memory space cannot be made available in applicants' system, the new service simply cannot be installed. Applicants' have therefore been confronted with and have overcome a problem that the designers of the Hawkins streaming services arrangement did not face and did not solve.

In the Office Action it was suggested that Hawkins inherently discloses or suggests applicants' claimed remote memory reallocation feature. As set forth in claim 1, applicants' approach involves "receiving information from a remote source on the amount of memory for the interactive television program guide to use to store the program guide data" and "adjusting the amount of memory used by the interactive television program guide to store the program guide data in response to the received information." These features are not shown or suggested by Hawkins. In the streaming services arrangement of Hawkins' system that was relied upon by the Examiner in rejecting claim 1, the functions of a program guide are provided by an MPEG data stream. There are no applications stored locally in the manner of applicants' invention in this

embodiment of Hawkins, let alone a way to remotely adjust how much memory is allocated to program guide data storage by an interactive television program guide.

Because the Hawkins streaming media platform is based on a fundamentally different approach than that used by applicants' system, Hawkins has not had to confront the memory storage design issues that applicants have faced. In the portions of the Hawkins patent referred to in the Office Action, Hawkins acknowledges that different services consume different amount of system resources, but does not disclose or suggest that the local memory usage in the Hawkins device could be reallocated to accommodate new services, let alone disclose or suggest that the amount of local memory set aside for program guide data be adjusted in response to information received from a remote source.

Claim 1 is therefore patentable over Hawkins, and applicants respectfully request that this rejection be withdrawn. Claims 2, 19 and 20 depend from claim 1, and therefore are also patentable and in condition for allowance. Claim 73 includes the elements of claim 1 discussed above, so applicants respectfully submit that claim 73 is patentable for the same reasons that claim 1 is patentable.

Claims 3-18, 29-36, 39-54, 65-72, 74 and 78

In the Office Action, claims 3-18, 29-36, 39-54, 65-72, 74 and 78 were rejected under 35 U.S.C. § 102(e) or 35 U.S.C. § 103(a) as being unpatentable over Hawkins. These rejections are respectfully traversed.

Considering the elements of independent claims 3, 29, 39, 65, 74 and 78 that correspond to elements in claim 1, applicants respectfully submit that these claims are

patentable over Hawkins for at least the reasons advanced above with respect to claim 1.

In addition, claims 3, 29 and 39 also set forth that the memory may be reallocated among different categories of program guide data. An example is depicted in FIGS. 8 and 9, and described on pages 12-14 of applicants' specification. In this example, different amounts of memory to store program listings and/or descriptions are allocated for each category (e.g., special events, pay-per-view movies, etc.) for each memory configuration level. Changing the memory configuration level may therefore result in reallocation of the amounts of memory among these categories.

These features are not shown in Hawkins. Hawkins does not disclose or suggest any adjustment or allocation of memory for storing different categories of program guide data. Hawkins discloses "size requirements, overall bandwidth requirements, and transmission time" for different types of data, but Hawkins does not disclose or suggest that this information is used in any way to allocate an amount of memory to be used for storing each category of data, let alone to reallocate memory among the different categories of program guide data.

Applicants respectfully submit that independent claims 3, 29 and 39 are therefore patentable over Hawkins for these additional reasons, and applicants respectfully request that the rejections of these claims be withdrawn. Claims 4-18, 30-36 and 40-54 depend from claims 3, 29 and 39, and therefore are also patentable and in condition for allowance. Claim 65 includes the elements of claim 29 discussed above, so applicants respectfully submit that claim 65 is patentable for the same reasons that claim 29

is patentable. Claims 66-72 depend from claim 65, and therefore are also patentable and in condition for allowance. Claims 74 and 78 respectively include the elements of claims 3 and 29 discussed above, so applicants respectfully submit that claims 74 and 78 are patentable for the same reasons that claims 3 and 29 are patentable.

Claims 23-28, 59-64 and 77

In the Office Action, claims 23-28, 59-64 and 77 were rejected under 35 U.S.C. § 102(e) or 35 U.S.C. § 103(a) as being unpatentable over Hawkins. These rejections are respectfully traversed.

Considering the elements of independent claims 23 and 59 that correspond to elements in claim 1, applicants respectfully submit that these claims are patentable over Hawkins for at least the reasons advanced above with respect to claim 1.

In addition, claims 23 and 59 also set forth that the memory used to store program guide data is reconfigured to accommodate program guide data in a new memory configuration. An example is depicted in FIGS. 8, 9 and 12, and is described on pages 12-14 in applicants' specification. In this example, the user television equipment receives information from a remote source defining a new memory configuration, such as the addition of new channels with additional accompanying data. In order to accommodate this new memory configuration in the memory, the system may reconfigure the memory by, for example, changing the memory configuration level (FIGS. 8 and 9).

These features are not shown in Hawkins. Hawkins discloses that the "total memory capacity [required] to

store...program guide [data]" may be "beyond the memory capacity" of the user equipment.¹ The reference does not teach or suggest that the memory of the user equipment may be reconfigured to accommodate this situation. Instead, Hawkins only teaches that in order to accommodate the program guide data, the data may be reduced in size by "encoding" or by "sacrific[ing] most of the descriptive information" in the program guide data.² Finally, this encoding or sacrificing of data is not performed in response to information received from a remote source, but in view of "the memory capacity of many of the user terminals."¹

Applicants respectfully submit that independent claims 23 and 59 are therefore patentable over Hawkins for these additional reasons, and applicants respectfully request that the rejections of these claims be withdrawn. Claims 24-28 and 60-64 depend from claim 23 and 59, and therefore are also patentable and in condition for allowance. Claim 77 includes the elements of claim 23 discussed above, so applicants respectfully submit that claim 77 is patentable for the same reasons that claim 23 is patentable.

Claims 21-22, 37-38, 55-58 and 75-76

In the Office Action, claims 21, 22, 37, 38, 55-58, 75 and 76 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hawkins. These rejections are respectfully traversed.

¹ Hawkins at column 19, lines 45 to 51.

² *Id.* at column 19, line 45 to column 20, line 44.

Considering the elements of independent claims 21, 22, 37, 55, 57, 75 and 76 that correspond to elements in claim 1, applicants respectfully submit that these claims are patentable over Hawkins for at least the reasons advanced above with respect to claim 1. Applicants therefore respectfully request that the rejections of these claims be withdrawn. Claims 38, 56 and 58 depend from claim 37, and therefore are also patentable and in condition for allowance.

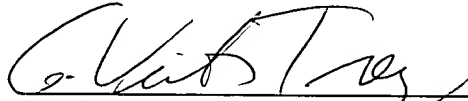
Conclusion

The foregoing demonstrates that claims 1-78 are allowable. This application is therefore in condition for allowance. Reconsideration and allowance of the application are respectfully requested.

Respectfully submitted,

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